

Tuesday, 1/8/2008 1:20:00 PM
Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : BRACKET ASSEMBLY
Job Number : 36663 -2
Estimate Number : 10278
P.O. Number :
This Issue : 1/8/2008 S.O. No. :
Prsht Rev. : NC Part Number : D3121141
First Issue : 1/1 Type : MACHINED PARTS Drawing Number : D3121 REV E
Previous Run : 36629 Project Number : N/A
Written By : Drawing Revision : E
Checked & Approved By : 28
Comment : Est Rev: Pick: A 04.02.18 New issue KJ/DS Material :
Est Rev: B ECN 1060 07-11-12 DD verified by: EC Due Date : 2/15/2008 Qty: 40 Um: Each

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 M174B1000X02000 17-4 SS Bar



Comment: Qty.: 0.5775 f(s)/Unit Total : 23.1000 f(s)
Material: 17-4 SS Bar per AMS 5604/5643
(M17-4-B1.000x02.000)
Identify for D3121-111
Batch: 1102476

2F 08/02/09

2.0 BAND SAW BAND SAW



Comment: BAND SAW
Cut blanks: (1.000" x 2.000") 6.600" long

2F 08/02/09

3.0 HAAS1 HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1
1-Machine D3121-111 as per Folio FA361 and Dwg D3121 Identify as D3121-111
2-Deburr
3-Scribe batch number

PTO - 7

2F 08/02/09

4.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

2F 08/02/09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3121-141 PAR #: N/A Fault Category: Prod / Machined Parts NCR: Yes No DQA: D Date: 08/02/22
 QA: N/C Closed: HJ Date: 08/02/22

NCR: <u>36663</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08/02/10	#3	1 Part the spigot is too small. .392 ^{+0.002} and the hole is .391. And origin was off by 0.010". R.C. operator error.	08/02/12	Spigot a fine machine the slots to 0.477" in length to compensate for the origin being off. Accurate this one time only	DSP 08/02/12	08/02/12	08/02/12	08/02/12
08/02/11	#3	2. Part's pop out of the jig on the first operation. R.C. material.	08/02/12	Scrub and destroy and Replace Qty (12)	S.F. 08/02/11	08/02/14	08/02/14	08/02/14
08/02/14	#3	1 Part move out of jig and the thread of 10-32 IS off center	08/02/12	Scrub and destroy and Replace Qty (1)	S.F. 08/02/14	08/02/14	08/02/14	08/02/14

NOTE: Date & initial all entries

R.C. Pit bull clamp machine

Date: Tuesday, 1/8/2008 1:20:00 PM
User: Kim Johnston

Process Sheet

337470

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BRACKET ASSEMBLY

Job Number: 36663

Part Number: D3121141

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC8

SECOND CHECK



Comment: SECOND CHECK

J-L 08/02/20

6.0

D312121

Bolt



Comment: Qty.: 1.0000 Each(s)/Unit Total: 40.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D3121-21

Bolt 36668

2-F 08/02/20 (13)

7.0

D3121241

Bearing Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total: 40.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D3121-241 Bearing Ass

36670

Scallop
wrong B# for D3121-24 ASS.
should be 337470 (13)

2-F 08/02/20 (13)

8.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1
Assemble D3121-141 as per Dwg D3121.

2-F 08/02/20 (13)

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/02/20 (13)

10.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

08/02/20 (13)

11.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

2-F 08/02/20

Job Completion



h 08/02/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	36663
Description: Bracket		Part Number:	D3121-111
Inspection Dwg: D3121	Rev: <i>DE</i> <i>VE</i> <i>08.01.08</i>	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.392	+0.002/-0.000	.392	✓			
0.75	+/-0.030	.751	✓			
0.375	+/-0.010	.376	✓			
2.14	+/-0.030	2.140	✓			
0.950	+/-0.010	.952	✓			
0.600	+/-0.010	.609	✓			
1.96	+/-0.030	1.862	✓			
0.280	+/-0.010	0.287	✓			
3.330	+/-0.010	3.330	✓			
3.630	+/-0.010	3.625	✓			
R0.25	+/-0.030	R.250	✓			
R0.375	+/-0.010	R.375	✓			
Ø0.201	+0.005/-0.000	.204	✓			
0.100	+/-0.010	.1000	✓			
4.580	+/-0.010	4.575	✓			
6.18	+/-0.030	6.183	✓			
5.89	+/-0.030	5.895	✓			
0.080	+/-0.010	.078	✓			
0.300	+/-0.010	.301	✓			
30°	+/-0.1°	30°	✓			
R0.25	+/-0.030	R.250	✓			
0.130	+/-0.010	.128	✓			
0.381	+/-0.010	.389	✓			
-0.281	+/-0.010	.204	✓			
0.400	+/-0.010	.404	✓			
0.580	+/-0.010	.584	✓			
100°	+/-1°	100°	✓			
.032	+0.002 -0.010	.031	✓			

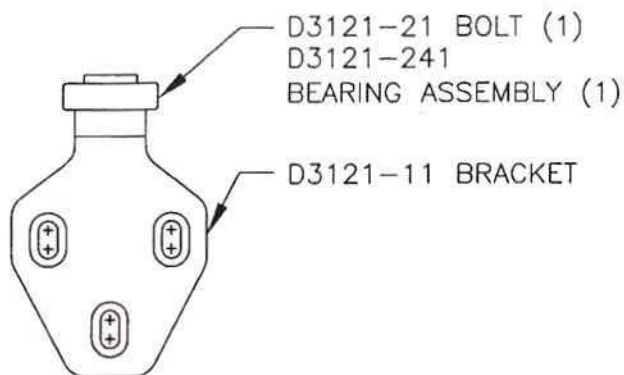
Measured by: <i>A.F.</i>	Audited by: <i>mf</i>	Prototype Approval:	N/A
Date: <i>08/02/09</i>	Date: <i>08/02/12</i>	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.01.12	New Issue P/O D3121-141	KJ/RF	
B	04.05.05	Dimensions changed/re-arranged per Dwg revision	KJ/JLM	
C	06.06.14	Dwg Rev. updated	KJ/JLM	

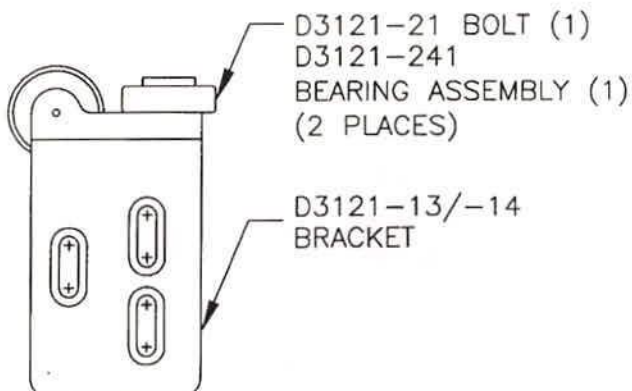


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CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 1 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2
A	02.04.15	NEW ISSUE	
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146	
C	04.02.17	ADD CLEARANCE; USE -241 BEARING	
D	06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000	
E	07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)	

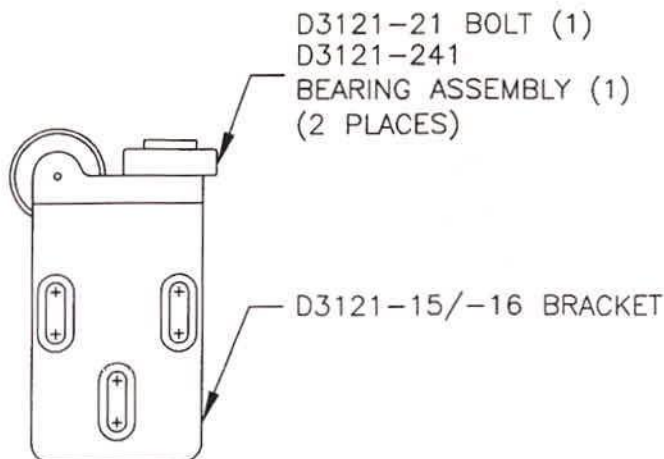
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D3121-041 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-33)



**D3121-043 (SHOWN) / D3121-044 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-37/-38)



**D3121-045 (SHOWN) / D3121-046 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-35/-36)

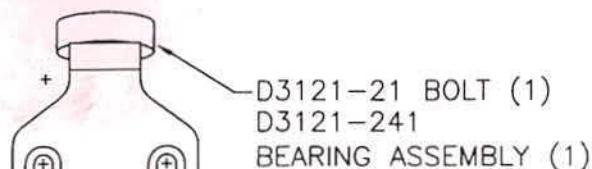
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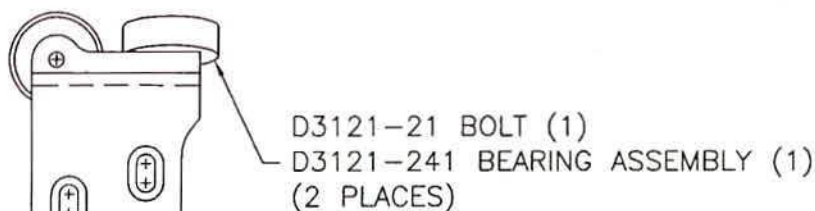


D3121-111 BRACKET

D3121-141 BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23001-01)

RELEASED
07.11.07



D3121-113/-114 BRACKET

**D3121-143 (SHOWN) / D3121-144 (OPPOSITE)
BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-115/-116
BRACKET

**D3121-145 (SHOWN) / D3121-146 (OPPOSITE)
BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-05/-06)

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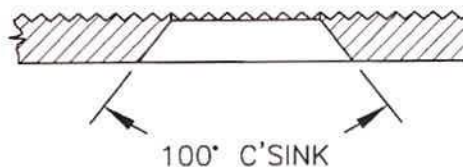
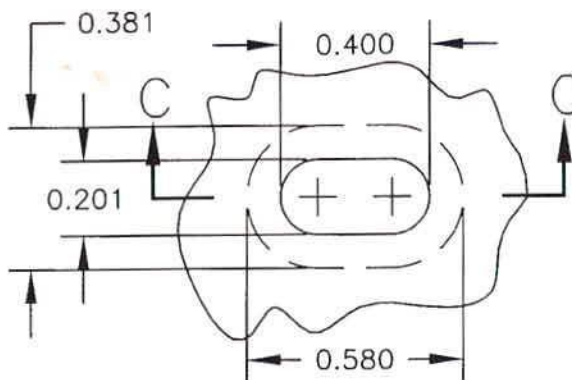
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DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:1

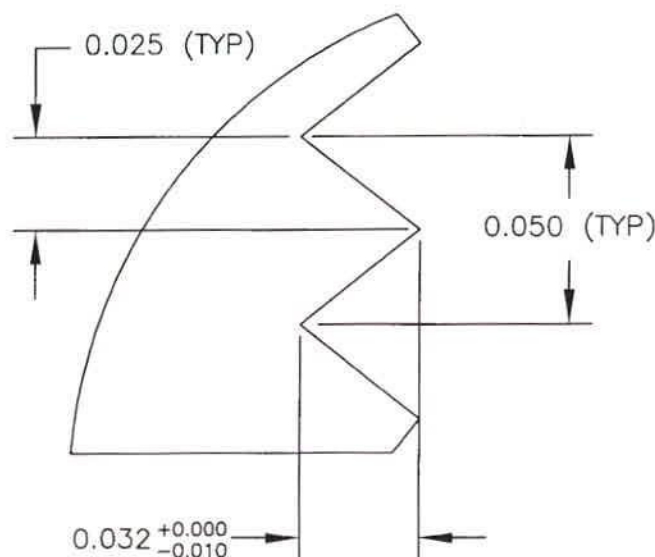
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SCALE 2:1
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SECTION
C-C

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07.11.07

DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



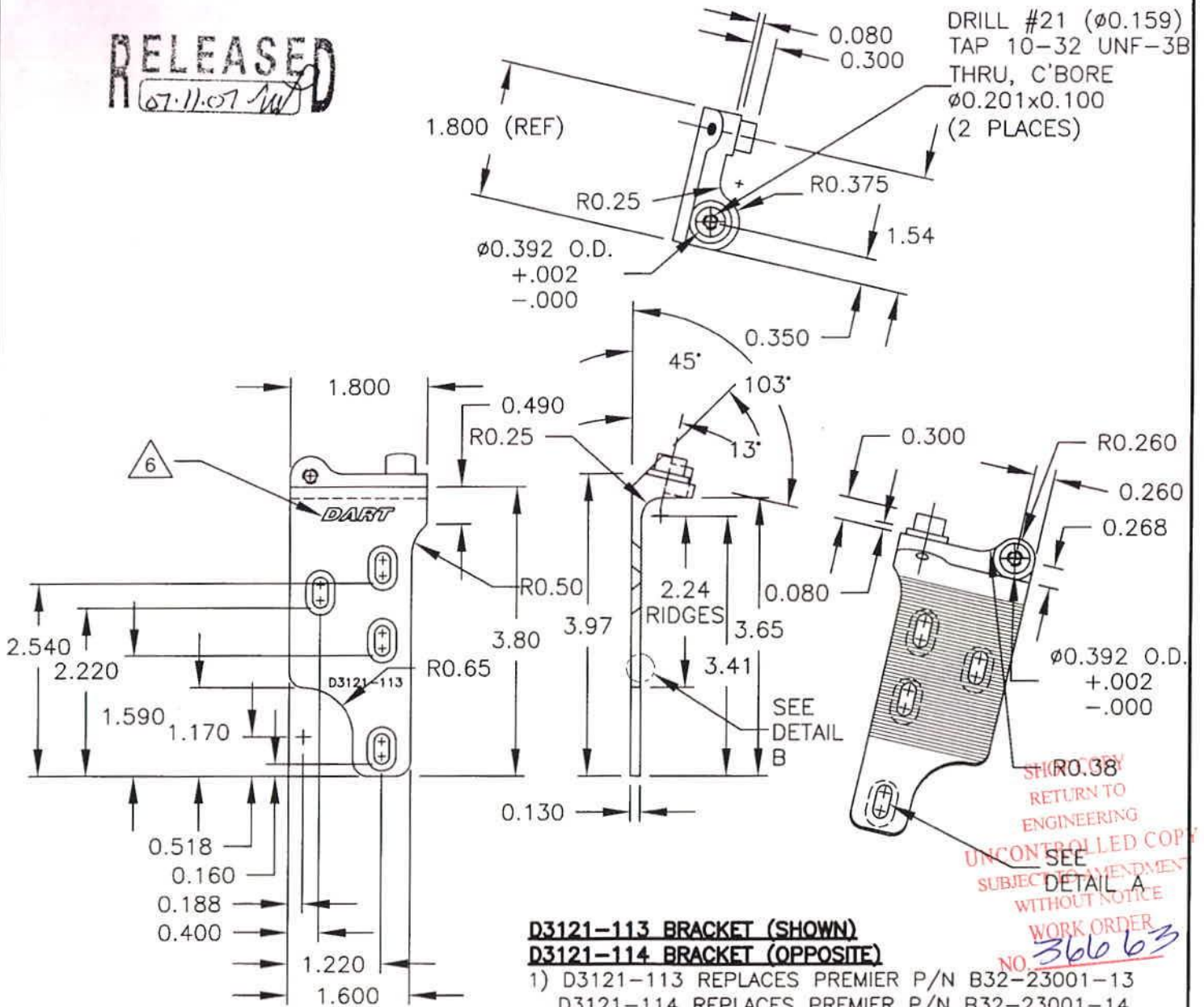
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DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

RELEASED
07.11.07**D3121-113 BRACKET (SHOWN)****D3121-114 BRACKET (OPPOSITE)**

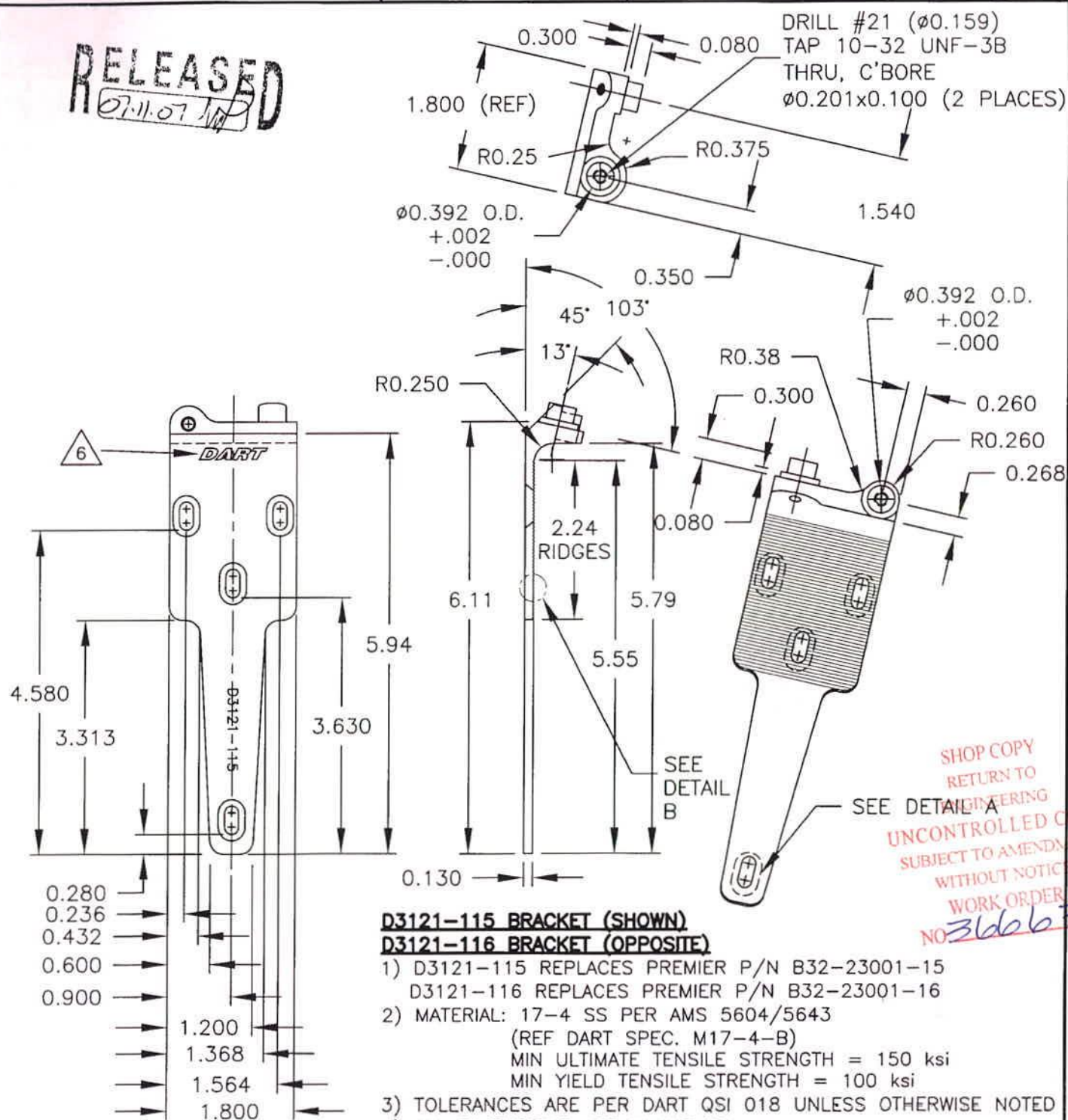
- 1) D3121-113 REPLACES PREMIER P/N B32-23001-13
D3121-114 REPLACES PREMIER P/N B32-23001-14
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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D3121-115 BRACKET (SHOWN)
D3121-116 BRACKET (OPPOSITE)

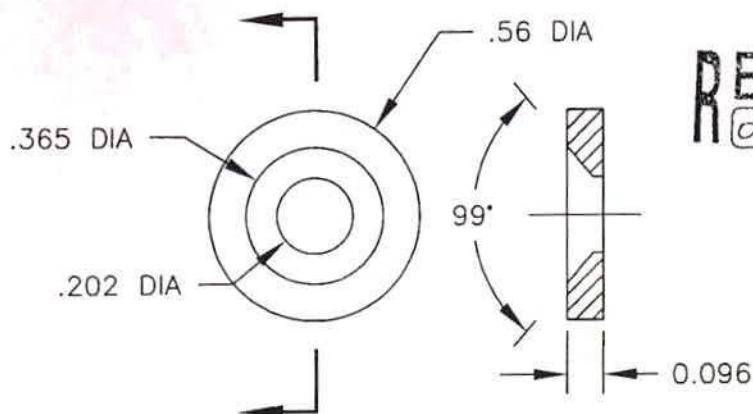
- 1) D3121-115 REPLACES PREMIER P/N B32-23001-15
D3121-116 REPLACES PREMIER P/N B32-23001-16
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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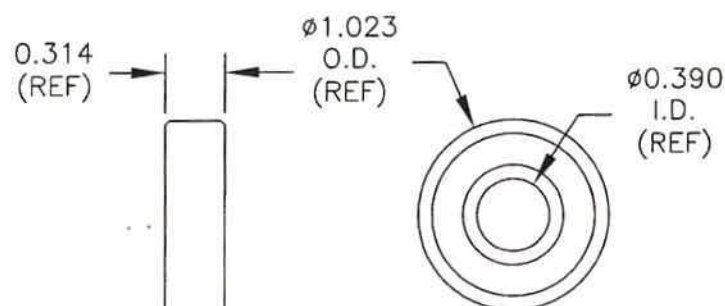


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DATE 07.11.07	TITLE BRACKET ASSEMBLY		SCALE 1:1



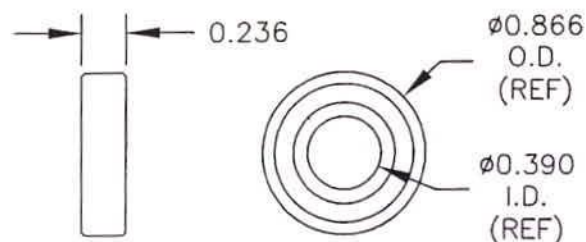
D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-19 BEARING (SCALE 1:1)

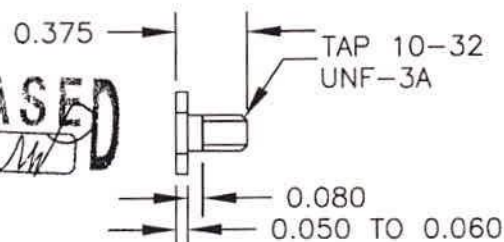
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



D3121-23 BEARING (SCALE 1:1)

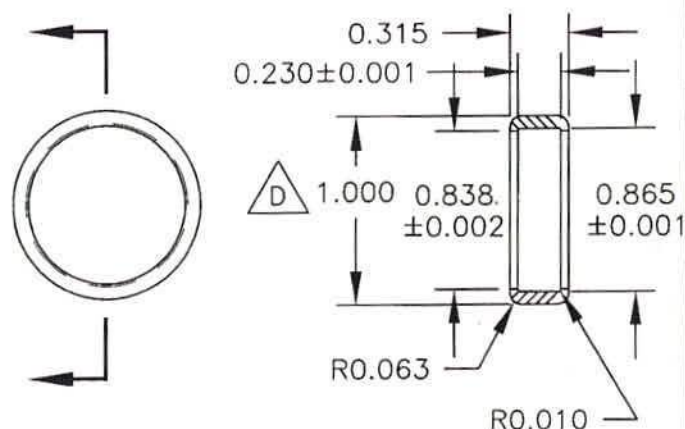
- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-2Z
- 2) ALL DIMENSIONS ARE IN INCHES

RELEASED
07.11.07 MW



D3121-21 BOLT (SCALE 1:1)

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-25 CAP (SCALE 1:1)

- 1) MATERIAL: DELRIN ROD, 1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES



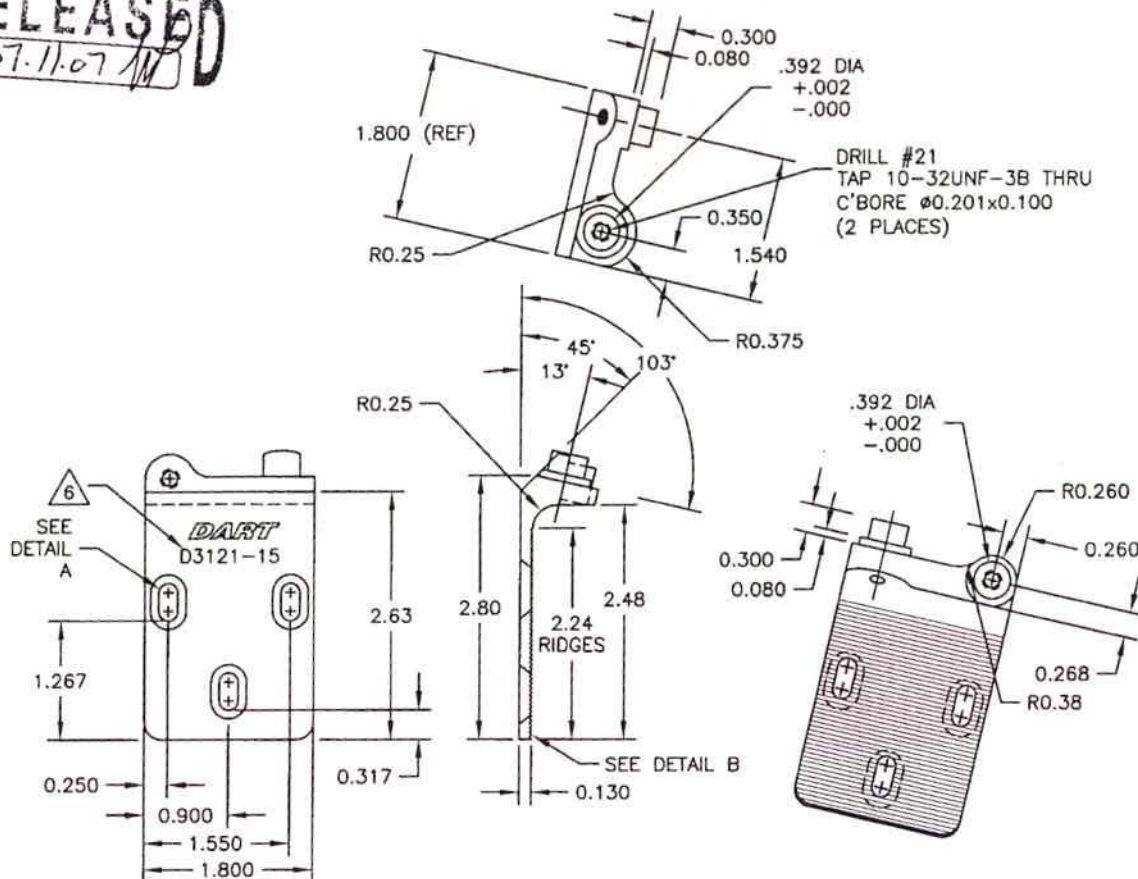
D3121-241 BEARING ASSEMBLY (SCALE 1:1)

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CHECKED #	APPROVED #	DRAWING NO. D3121	REV. E SHEET 6 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

RELEASED
07.11.07**D3121-15 BRACKET (SHOWN)****D3121-16 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08/02/16	3.0	1 part moved out from the gig and the 0.2010" Bore and 10-32 thread are off center of the Spigot.		Make Sure that parts are always well install in the gig Replace B#102476				

NOTE: Date & initial all entries